GrummanWorld

Volume 7, Number 22 | Our Employees Are Our Major Shareholders | November 28, 1988

Working Together. *In the anechoic chamber in Calverton, Long Island, engineer John Cullen (in aircraft) and project engineer Joe Genovese check the Multistage Improvement Program Mohawk's self-protection systems. They want to make sure all the components operate properly, without interfering with one another. This latest version of the Mohawk will soon begin a flight test program at Calverton. (Photo by Karl Thoma)*

Grumman Investigating Next-Century Tomcat

While parts are being cut for the first of the production F-14D Tomcats, Grumman is looking at an advanced Tomcat design that could satisfy the Navy's need for a strike fighter in the next century. This twenty-first century fighter only exists on paper and in computer memory in Advanced Development, but it has a name: "Tomcat-21."

Under a company-funded effort, Grumman is studying this multirole, technologically advanced fighter concept and presenting it to the Navy.

"The carrier air wing mix is starting to change," says Don Markarian, the F-14 Program vice president. "The Navy will need an advanced fighter that can do more than just destroy enemy aircraft in an air-to-air mode. It will need a fighter that also has an air-to-ground punch.

"We have a number of ideas about what you can do to an F-14 to make it an advanced strike fighter without compromising its air-to-air capability," says Markarian. "In fact, our ideas would enhance the air-to-air role."

One thing that wouldn't change for the Tomcat-21 is the F-14 shape. There would be some structural and electronics changes, and some systems already on the F-14D, such as the APG-71 radar, could be upgraded to Tomcat-21 requirements.

An attack role for the Tomcat is not something new. The VFX (the name of the original F-14 during the design stage) was to have had air-to-ground capability.

In fact, there were air-to-ground weapon tests of the F-14 in the early '70s. Testing was being done to develop the hardware and other systems needed to release bombs. But then the Navy decided to forgo the air-to-ground capability.

If a Tomcat-21 were to become a production reality, Markarian says it would be a late 1990s airplane. But it's still too early to tell just what the future will be for the Tomcat-21 concept.■

Grumman To Help Upgrade Chinese Fighter

Grumman and the People's Republic of China have teamed to upgrade China's F-7M fighter.

The preliminary design for this updated Super-7 fighter begins now and spans nine months. Once fully under way, about 30 Grummanites and a dozen people from China's Chengdu Aircraft Corporation will work on the project. The single-seat, single engine Super-7 will be offered by China to international customers as a low-cost, newly built replacement for the American F-5, Soviet MiG-21 and Chinese F-6 and F-7 fighters.

The Super-7 is an outgrowth of the Sabre II program, a study Grumman did for the Pakistan Air Force in 1987. Grumman analyzed the feasibility of putting American engines and avionics into the F-7. Pakistan sought this updated version of the Chinese plane as an alternative to more expensive Western fighters.

"Pakistan opted instead to expand its fleet of F-16 aircraft," says John Calandra, program director. "But the Chinese wanted to continue working on the F-7. They have a lot to gain from working with Grumman in terms of improving the F-7M airplane's capability."

Funding for the preliminary design project includes $2 million from the Chinese government and $1 million of offset budget from the F-8 Peace Pearl program. The latter earns Grumman a $15 million credit toward its offset obligation for the Peace Pearl.

The F-7's forward section will be redesigned to accommodate a new modern cockpit, avionics suite and escape system. The Super-7 preliminary design will also include a new GE F404/RM12 power plant and gearbox; wing and structural modifications to improve flight performance; a new, steerable nose wheel; two additional missile store stations; and increased fuel capacity.

In addition to air-to-air missiles for its primary fighter role, the Super-7 will have the capacity to carry a variety of attack ordnance.

Grumman's role is twofold. It will review the results of Chengdu's tests and conduct its own analyses in two critical areas: engine and avionics performance. "The tasks are divided between Grumman and the Chinese to comply with Department of Defense restrictions," says Calandra.

Aerodynamic performance will be tested in a wind tunnel at

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Grumman Reports Third Quarter Results

Grumman Corporation has reported third quarter net income of $22.5 million, or 66 cents a share, up from $8.1 million or 21 cents a share in the 1987 third quarter. The 1988 third quarter results included a one-time accounting adjustment for New York taxes that added $16.8 million to the aerospace segment operating income; the after-tax benefit to net income was $11.1 million, or 34 cents a share.

Quarterly sales increased eight percent to $831.5 million from $772.2 million as deliveries increased for the Navy F-14 aircraft and the U.S. Postal Service delivery truck.

Increased borrowings brought interest expense in the quarter to $21.6 million, up $6.2 million from a year ago. The backlog remained at a record high of $7.9 billion.

For the first nine months, net income was $62.3 million, or $1.80 a share, on sales of $2.61 billion. The comparable 1987 income from continuing operations was $43 million, or $1.20 a share, on sales of $2.43 billion. In the first quarter of 1987, net income included $35 million, or $1.07 a share, from a change in accounting for income tax. That made net income for the 1987 nine-month period $78 million or $2.27 a share.

In the aerospace segment for the quarter, income was $39.7 million, up from $13.9 million. In 1979, the company switched to the completed contract method of reporting income for federal income tax purposes. After a lengthy dispute with the U.S. government over the accrual of state taxes under the new reporting method, Grumman benefited by a $16.8 million accounting adjustment for New York State franchise taxes.

Sales in the aerospace segment increased by $56.3 million to $604.3 million. Four F-14s were delivered in the quarter compared with none in the 1987 quarter when production was being switched to a new model.

In the electronics systems segment, sales declined to $112.3 million in the quarter from $157.5 million a year ago. Income decreased to $1.5 million from $1.7 million. Sales of automatic test equipment to the government were down as were revenues from the Joint STARS radar aircraft program. U.S. Army and Air Force expenditures on the Joint STARS five-year development program declined, in accordance with the spending plan. The program has been a technical challenge to Grumman, its suppliers and customers. That challenge is being met. However, it has caused what the company estimates to be a nine-month slip in the original program schedule. Grumman continues to assess the total effects of this delay.

In the special purpose vehicles segment, quarterly sales increased to $90 million from $70.1 million but income declined to $238,000 from $2 million. Sales increased from more deliveries of U.S. Postal Service trucks. However, income declined because of increased material costs, primarily aluminum, in the truck body operation. There were also non-recurring start-up costs from a new centralized parts fabrication center.

Sales in the information and other services segment increased to $128.7 million from $105.9 million and income was $13.5 million, up from $12.7 million. This was due primarily to the Space Station Program Support contract for NASA which was just beginning in last year's quarter.

"Our performance continues to improve," said Grumman Chairman John O'Brien. "Even without the one-time tax adjustment, our income for the quarter was up 41 percent, and for the nine months it was up 19 percent.

"Orders in our core aircraft business remain strong," he said. "The production line of our Post Office delivery truck is running smoothly. Our Data Systems division recently added two Air Force contracts with $500 million of business potential."■

Appointments

The following Grummanites recently received new assignments:

Aircraft Systems

Integrated Logistics Support: John Alber, section head, Systems Concepts/Services; Raymond Gaddis, section head, Site Requirements Support; Michael Andersen, section head, Sub-Systems; Ernest Wanke, group head, Technical Services; Armand Bergeron, group head, Validation and Verification; Patricia Rinaldi, group head, Sub-Systems; Henry J. Baluta, technical specialist, Equipment Design Engineering.

OV-1D/RV-1D: James L. Flowers, director.

Technical Operations: Vincent A. Laino, manager, Cost and Schedule Systems.

Space Systems

Program Procurement: Roger B. Conklin, director.

Sneak Preview. *This model shows how the upgraded F-7M fighter, called the Super-7, will look. The Super-7 will boast a new cockpit, avionics suite, escape system, new GE engine, and two additional missile store stations.*

Grumman, Chinese To Revamp Fighter

(Continued from page 1)

China's Aerodynamics Research and Development Center, Mianyang, Sichuan province. Grumman engineers will travel there to support that phase of the project.

The Grumman-Chengdu crew has been working in a building in Woodbury but tentatively plan to move to a different location.

Grumman and China anticipate a market for over 200 Super-7s, each with a flyaway cost less than $10 million. "China's own air force may be interested in the Super-7," says Calandra. "Plus, China has sold F-7s to other countries and may be able to convince those customers now to purchase Super-7s."

The marketing team has not given up on Pakistan, either. "The Pakistanis are still somewhat interested in the aircraft," says Calandra. "In fact, they are stationing people here during the preliminary design."

Singapore and Egypt have expressed interest in the project. "But nobody has said they will buy it," he says. "They want to first see the results of the preliminary design. They want to make sure it will offer enough performance at a low enough cost."

The next phase for the Super-7 would be full scale development. If the program reaches that stage, the work will be done in a new Grumman building at Ellington Field, Houston, Texas.

"But we'll only go ahead with that if we have a buyer," says Calandra. "Grumman can't do it alone...nor can the Chinese."■

Give The Gift Of Life This Holiday — Donate Blood

Date	Location	Time
December 1	Bldg. 4	9 a.m. to 2:30 p.m.
December 8	Calv. PROM	8:30 a.m. to 2 p.m.
December 9	Bldg. 6	8:30 a.m. to 2 p.m. 5 to 10:30 p.m.
December 14	Bldg. 121	9 a.m. to 2:30 p.m.
December 14 & 15	Bldg. 5	9 a.m. to 2:30 p.m.
December 16	Bldg. 1	9 a.m. to 2:30 p.m.
December 19 & 20	Bldg. 2	9 a.m. to 2:30 p.m. 5 to 10:30 p.m.

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1988 Annual Report
For Grumman People

New Lab To Be Instrumental In Pursuit Of Space Business

Grumman Space Systems laboratory's first task: test Boost Surveillance Tracking System (BSTS)

BETHPAGE, New York, November 3, 1988 — While television crews scurried for the best shot, the ribbon was cut on Grumman's new Sensor Test and Integration Laboratory today.

"This laboratory has more capability than any other facility of its type in the nation," said Grumman Vice Chairman-Development Dan Huebner. "It is a wise investment in our high technology future."

More than 300 company, government and military officials gathered to dedicate the facility, which will be instrumental in the company's pursuit of new space business. Its first project: ground testing of Grumman's Boost Surveillance Tracking System (BSTS).

Grumman has a $304 million contract with the U.S. Air Force's Space Division, Air Force Systems Command, for BSTS system design, demonstration, and validation.

BSTS will give the earliest warning of an intercontinental ballistic missile attack. When a missile is launched, it goes through a boost phase that lasts up to five minutes. As the missile's first and second stage engines burn, they give off telltale plumes of hot ionized gases that can be detected by the BSTS satellite's infrared sensors. BSTS will monitor and track the missile and then signal other systems to intercept.

"The United States needs BSTS as a national asset," said Huebner. "We pledge to help make BSTS a reality."

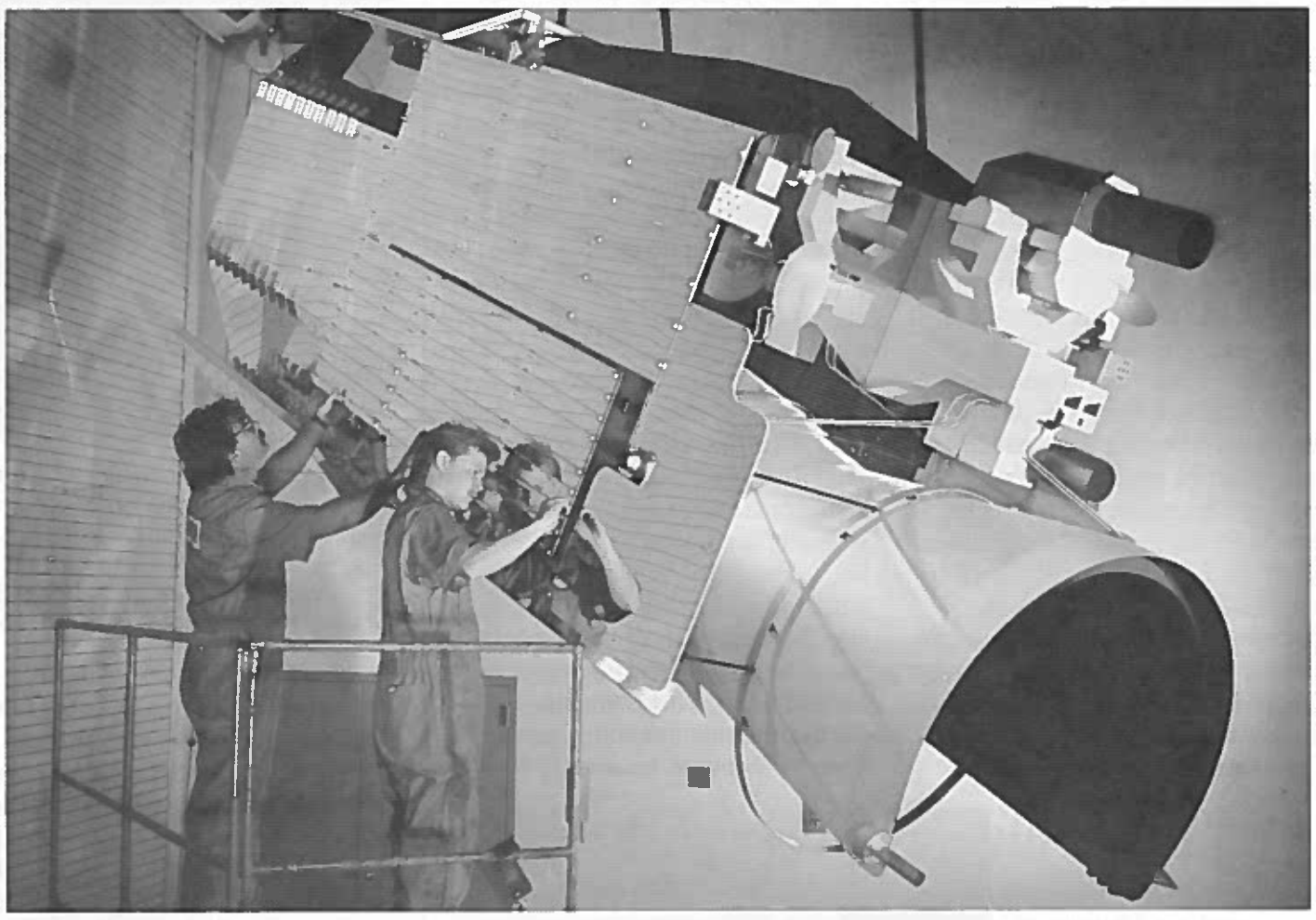
Grumman is teamed with Ford Aerospace, Litton Itek, and Rockwell International. A Lockheed team also won a development contract.

The BSTS final design review is scheduled for April 1990. At that time the Air Force will select a contractor to build an experimental satellite, which will be test flown sometime during the '90s.

"The BSTS program continues to be the flagship of the nation's most ambitious technology program — the Strategic Defense Initiative," said Maj. Gen. Robert Rankine Jr., vice commander of the Air Force Space Division. "As one of two contractors still competing for development and production of the system, Grumman has chosen a technically challenging approach which promises, if successful, to provide high confidence and timely mission accomplishment."

"This facility will allow us to test, integrate and validate actual space sensor hardware against a simulated earth infrared background with the inclusion of missile targets over their full operational range," said Alex Alexandrovich, president-Grumman Space Systems Division.

Although BSTS will be its first challenge, the new laboratory can be used to test any type of space hardware. The new lab will officially open in December.■



Dedication Ceremony. *Major General Robert Rankine Jr. (L), vice commander, Air Force Space Division, addresses over 300 people who attended the dedication ceremony of the new Sensor Test and Integration Laboratory. Scott Lewis (above R) and Steve Coniker, of the Woodshop in Bethpage, attach a radiator panel to the half scale model of the Boost Surveillance and Tracking System (BSTS). The model was fabricated in the woodshop and fully assembled in the new lab for the ceremony. BSTS will be the lab's first project. (Photo by Rich Breunig)*

Holiday Break Moves Deadline For Two EIP Transactions

If you plan to make a lump sum contribution or change your deductions by the end of 1988, you must submit your request to the Employee Investment Plan office no later than Monday, December 19. Normally, the deadline for these two types of transactions is five working days before the end of the month. However, the company begins its year-end holiday break on Friday, December 23.

If you wish to make either transaction by the end of December, make sure you mail your lump-sum contribution or authorized deduction card early, so it reaches the Employee Investment Plan office no later than December 19.

First Phase Of HSRP Completed Nov. 5

On November 5, Data Systems successfully completed the first phase of the Headquarters Systems Replacement Program (HSRP) by turning over a fully operational computer system to the Air Force.

The system, based on an IBM central processor, incorporates three different operating systems: a data base management system, graphics and decision support software, and a specialized software tool set used for developing applications programs.

The system will serve 250 dedicated users in the Pentagon plus other remote users on the Air Force local area network.

Bernier Didn't Leave Us After All — He's Alive And Working In Melville

Mark Twain wrote, "Reports of my death are greatly exaggerated." Bernard Bernier of EA-6B Product Operations felt the same way about it when his name showed up on the list of retiree obituaries in November 11 *Grumman World*.

Grumman World gets its information for retiree obituaries from the Pension Department: it's a list of people who no longer receive pension checks. If you die, the Pension Department puts your name on the list. But there's one other way your pension check can stop: you can return to work — and that's what Bernier did. Now, some Grummanites retire and come back as consultants — but it's unusual for someone to come back as a regular, full-time employee. Bernier left Grumman in August 1986, but came back on September 6, 1988.

"The date that was listed as my date of death was actually the day I came back to work," says Bernier. "It also happens to be my wedding anniversary." Which one? "Thirteenth." Of course.

"I've got to tell you, it really does something to you to see your life summarized in three lines," he says. "But what really bothered me is that I didn't get any flowers or insurance checks."

Grumman World apologizes for the error — and thanks, Bernie, for being such a good sport. (Welcome back.)■

Really Glad To See You. *Bernard Bernier had retired, then came back to work. He had been mistakenly listed in the Retiree Obituaries column, but he's alive and well in Melville. (Photo by Jim Wagner)*

Family Pride. *On November 13, Grummanites in Aircraft Systems production and support areas got to show their families where they work. There were tours of Buildings 1, 2, 3, and 4. (Photo by Jim Wagner)*

Bethpage Ops Family Day Draws 10,000

BETHPAGE, Long Island — Over 10,000 people turned out on a rainy November 13 for Family Day sponsored by Aircraft Systems Bethpage Operations.

This was a chance for Grummanites in Bethpage production and manufacturing-support departments to show their families where they work. Tours were held of Buildings 1, 2, 3 and 4. In the Building 4 hangars, visitors got a chance to see the E-2C Hawkeye and C-2 Greyhound, as well as Grumman canoes, emergency vehicles, and a Long Life Vehicle.

"People have been working really hard, putting in a lot of extra time, to get the job done," said Bob Byrnes, general manager of Bethpage Operations. "This is one way to show our appreciation."

Warren Fletcher of Production Control, Building 4, brought his wife Edna, all seven of his sons, and his nephew. "It's interesting for the boys — and for me, too — to see all the stages involved in making aircraft," said Edna Fletcher. "Warren talks about it at home, but it's nothing like seeing the planes up close."

Bob Jensen, of A-6E forward section assembly in Building 2, brought his wife, Linda. "Grumman should do this more often," he said. "It's nice to let people see what we do."

Once the tours were finished, everybody gathered in Building 4's hangar 3 for an extra treat: ice cream and snacks for the kids, and coffee and cake for the grownups.

Benton Park Marks A Solid Year In Business

EAST BENTON, Pa. — Grumman Electronics Systems recently celebrated its first year of operations in Benton Park. Local business and government officials — and the homeowners who live around the plant — were invited to tour the facility on November 3.

"We like to give the community an opportunity to come through and see what we've accomplished," said Ken Walch, site manager of this printed circuit board manufacturing plant. Grummanites here assemble circuit boards to customer's specs from kits shipped from Great River, L.I., or from customers.

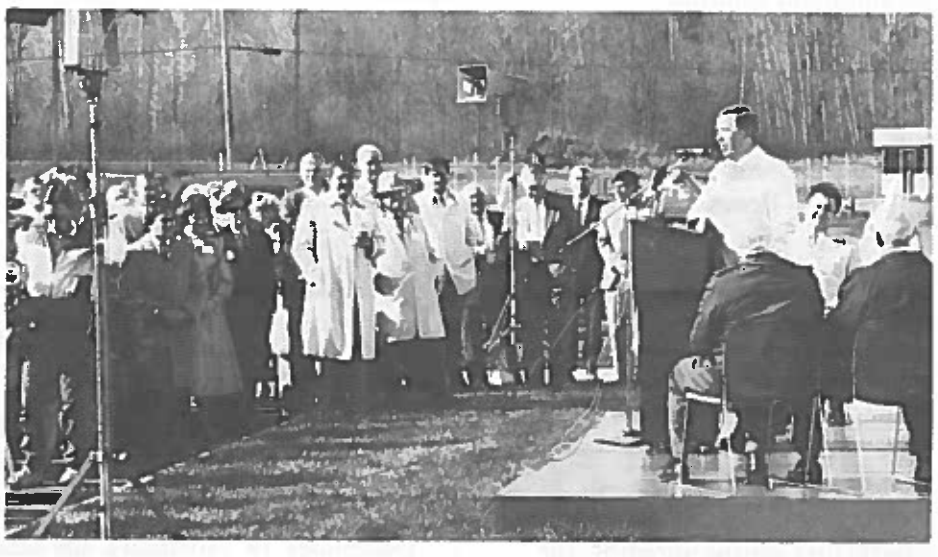
"This building was designed to hold up to 1,000 people," said Walch. Today, there are 150 Grummanites working here. The near-term goal is to have 300 by 1990 and 800 in the years after.

For the original 40, the first days were a little tough. "We had to work around some of the building contractors," Walch recalled. "However, we delivered our first circuit board the day we opened."

Since then they've delivered 30,000 printed circuits for Grumman, IBM, Litton, Sikorsky, Unisys and other customers.

Division President Bob Nafis said, "What you see today are the first steps in what we expect to be a continuing personal and business growth here in Benton."

In the future, Electronics Systems wants Benton Park to build advanced circuitry using manufacturing techniques such as the layering of components on a base. It will also manufacture electronic devices using gallium arsenide circuits being produced by the division's Tachonics Corporation subsidiary.



Warm Reception. *The temperature was on the cool side, but the welcome Electronics Systems extended to the community of its Benton Park plant on November 3 couldn't have been warmer. Ken Walch, the site director, opened the dedication ceremonies. (Photo by Jim Wagner)*

There's no reason to think these new products won't come on stream right on schedule.

"Things have gone very smoothly," Walch said. "We've been able to pick up production and improve quality in the first year to even better levels than we had anticipated."■

GQ Solution Keeps A Million In Grumman's Pocket

Results — that's what Grumman Quality (GQ) is all about. Recently, an Aircraft Systems quality action team suggested an initial solution for the parts shortage problem in its division. When implemented, this solution may result in the company not having to spend about a million dollars in the next six months.

The team members discovered that some of the shortage problems begin as a symptom of another problem — inaccurate inventories.

They suggested that the reason for inventory inaccuracy was due to a lack of proper inventory practices. By dedicating employees to inventory validation, the team is convinced the parts shortage problem can begin to be significantly reduced.

From a sampling taken in September, the group estimated inventory inaccuracy to account for at least 60 percent of the cost of replacing parts. Many of these parts may not have had to be replaced — just found.

"There are 30 people in Building 30 in Bethpage who control inventory by computer. Their information comes from the data input supplied by the warehouse stockroom — physical counts of the parts. If those counts are inaccurate, so is the computer data," says Tom Capozzoli, deputy director, Material Operations.

"If an order comes in for a part and the computer shows there are none, some must be ordered," says Capozzoli. "That's money spent unneccessarily if the parts are there but not accounted for."

On the flip side, Capozzoli explains that sometimes the computer shows plenty of a specific part in the stockroom. But when the mechanic tries to pick up that part, the bin is empty. "Now you have a shortage problem," says Capozzoli, "Is the computer data wrong or was the part put in the wrong bin?"

The team found that each member of another group in Building 30 was processing 250 purchased part back-orders every month at a cost of $515 per order. "The question is, do those parts actually have to be back-ordered or are they lost in the shop or stockroom?" says Capozzoli.

Calverton Operations was chosen as a pilot site for the group's proposed solution. "Because of its final assembly responsibilities and the effect inventory has on product delivery, the group felt Calverton would greatly benefit," says Capozzoli.

In addition, after some extensive research, the team found the inventory accuracy rate in Calverton to be an opportunity for improvement.

As the group learned, the people assigned to inventory validation in the Calverton stock room have other responsibilities as well.

"They don't have enough time for inventory activities so the incidence of inventory inaccuracy has increased," says Capozzoli.

The group wants three people to be totally dedicated to the Calverton stock room for six months to improve their inventory data. They estimate that, during the six-month pilot program, the number of back-orders should be reduced by 10 percent just by fixing the records. In addition, the cost of unnecessary parts will be eliminated.

"And the real cost avoidance is intangible," says Capozzoli. "That's the enormous expense the company must absorb when a plane is not delivered on time because of parts shortages."■

They've Got A Solution. *This Aircraft Systems GQ action team recently presented to management one solution to the division's shortage problem. Team members shown are: (L to R) Tom Capozzoli, deputy director, Material Ops; Gerry Loughran, section head, Optics and Displays; and Vinny D'Angelo, director, Parts Fabrication, Quality. (Photo by Jim Wagner)*

She's A Winner. *Marie Kane is congratulated by: (L to R) Vinnie DeStefano, vice president, Production Ops and 1988 chairman, Grumman Blood Program; Newsday Publisher Robert Johnson, 1988 division chairman, Long Island Blood Services Corporate Campaign; and Grumman Chairman John O'Brien. (Photo by Rich Breunig)*

Kane Gives The 12 Millionth Pint

On any other day the fact that Marie Kane was the fourth person in line to donate blood in Building 35 would have been no big deal.

But, on November 15, the fourth person in line was also the 12 millionth donor to the Greater N.Y. Blood Program.

As Kane stepped up to take her turn, she was greeted by Grumman Chairman John O'Brien, representatives from Long Island Blood Services and the Greater N.Y. Blood Program and newspaper reporters.

"It's people like you that make the blood program work," said O'Brien, as he draped a scarf bearing the blood program's emblem around her neck.

Kane also received two tickets to a Broadway play of her choice as well as a gift certificate to a local supermarket.

"I can't believe it," said Kane. "I tried to get my friends to come down by telling them they were giving away a Mercedes. I never thought I'd be chosen."

Obituaries

Antonino Asaro of Business Management and Analysis, Bethpage, Aircraft Systems Division, died Oct. 30 at the age of 51. He had been with the company since 1957 and resided at 5 Sandy Ct., South Farmingdale, N.Y.

Salvatore Conforti of Production, Pt. Mugu, Aircraft Systems Division, died Nov. 1 at the age of 63. He had been with the company since 1952 and resided at 204 Greenheath Pl., Thousand Oaks, California.

Theodore G. Leutritz of Technical Requirements, Melville, Aircraft Systems, died Nov. 1 at the age of 66. He had been with the company since 1967 and resided at 8 West First St., Freeport, N.Y.

James W. Maskulyak of Repro Services, Bethpage, Corporate Services Division, died Oct. 31 at the age of 56. He had been with the company since 1963 and resided at 563 Seaford Ave., Massapequa, N.Y.

Betty N. Roberts of Expediting, Milledgeville, Georgia, Aircraft Systems Division, died Nov. 1 at the age of 59. She had been with the company since 1975 and her address was Route 1, Box 216, Sparta, Georgia.

Robert L. Thompson of Propulsion Systems, Bethpage, Aircraft Systems Division, died Oct. 28 at the age of 59. He had been with the company since 1953 and resided at 14 Maiden La., Jericho, N.Y.

Lawrence W. Yunker of ILS Training Systems Engineering, Melville, Aircraft Systems Division, died Oct. 30 at the age of 60. He had been with the company since 1965 and resided at 201 Victory Dr., Massapequa Park, N.Y.

Personals

My family and I wish to sincerely thank our friends and former co-workers at Grumman for their kind expressions of sympathy, especially Department 033 in Building 2, during the recent loss of my wife Anna. **George A. Fowler**

I would like to thank my friends, co-workers and ESO for the support and expressions of sympathy given to my family and I following the loss of my father James A. Freeman. **Sean K. Freeman and Family**

My family and I, including my daughter Gloria Dees, would like to thank our co-workers, friends and ESO for the kind wishes and sympathy upon the death of my father. **Floyd T. Cisco Jr.**

I wish to thank ESO and my fellow employees for their support and many expressions of sympathy in the recent loss of my wife Eleanor. **C. Gilsenan**

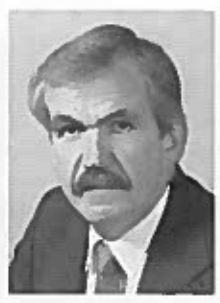
J. L. Abramowitz

B. R. Abseck

M. Accardi

T. G. Acheson

J. Altieri


R. D. Ambrosait

J. J. Anselmo

K. L. Arnold

I. P. Ballou

R. J. Baum

J. Berka

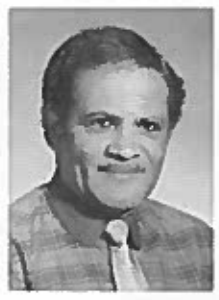
M. K. Bradnick

A. Brooks

P. L. Brown

F. A. Byrd

J. J. Caputo


W. H. Carpenter

H. E. Case

G. M. Castrataro

V. R. Ciminera

P. T. Colon

R. J. Corris

M. L. Cranmer

F. S. DeVito

W. H. Dunmyer

W. G. Egan

C. B. Eich

L. Elmen

A. A. Fernandez

C. S. Fleming Jr.

T. E. Frabizio

R. Frey

F. W. Gaughran

R. A. Goddard

E. Gorczycki

A. J. Granata

R. Graziose

J. E. Grech

H. E. Hagberg

G. F. Haggerty

J. R. Hakimi

H. J. Hanley

R. Heggie

W. F. Hickey

G. N. Hickox

K. R. Himmelmann

W. T. Hynes

K. R. Johnson

Service Milestones

45

November

Harry R. Milne, Bethpage, Corporate Services

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November

Dwight G. Hutchinson, Calverton, Aircraft Systems
Donald J. Lamorte, Bethpage, Aircraft Systems
James B. Middleton Jr., Bethpage, Aircraft Systems
John G. Musante Jr., Calverton, Aircraft Systems
Arthur E. Pope, Hicksville, Corporate Services
Thomas E. Ryan, Bethpage, Aircraft Systems

December

George A. Bleakley, Bethpage, Aircraft Systems
Charles W. Gosline, Bethpage, Aircraft Systems
Gabriel B. Grenci, Bethpage, Aircraft Systems
John A. Grodeski, Bethpage. Aircraft Systems
Edward J. Kavanaugh, St. Augustine, Aircraft Systems
Robert A. Walters, Bethpage, Aircraft Systems
Stephen E. Wismann, Stuart, Aircraft Systems

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November

John H. Gross, Bethpage, Aircraft Systems
Frederick D. Larrick, Bethpage, Aircraft Systems
Wing Lee, Bethpage, Data Systems
William R. Schooley, Melville, Melbourne Systems
Barbara A. Seaman, Bethpage, Aircraft Systems
Edward M. Thomas, Melville, Melbourne Systems

December

Thomas J. Haggerty, Bethpage, Aircraft Systems
Norm N. Lewin, Bethpage, Aircraft Systems
Werner H. Nufer, Bethpage, Aircraft Systems
Ralph E. Olsen Jr., Melville, Aircraft Systems
Robert C. Weston, Bethpage, Aircraft Systems
Jurgen R. Wiehl, Bethpage, Aircraft Systems

30

November

John D. Conover, Melville, Aerostructures
Irene E. Gaden, Bethpage, Corporate Services
Frank A. Gatz, Calverton, Aircraft Systems
Thomas P. Ivory, Melbourne, Melbourne Systems
Stephen R. Juengst, Bethpage, Corporate Services
George M. Lewis, Calverton, Aircraft Systems
Joseph V. Licari, Melville, Electronics Systems
David Lusk, Marathon, Allied
Joseph P. Milillo, Bethpage, Aircraft Systems
Vera M. Senyk, Bethpage, Aircraft Systems
Peter Sikoryak, Bethpage, Aircraft Systems

Frederick F. Zapf, Melville, Aircraft Systems

December

Louis Baldassin, Bethpage, Aircraft Systems
Guenther J. Bauer, Hicksville, Aircraft Systems
Anthony F. Borg, Melville, Electronics Systems
Vincent A. Ciampa, Bethpage, Aircraft Systems
George T. Demarest, Melbourne, Melbourne Systems
Edward C. Greiner, Bethpage, Aircraft Systems
Charles E. Harrison Jr., Calverton, Aircraft Systems
Wallace Howitt Jr., Bethpage, Aircraft Systems
Joan T. Leggio, Bethpage, Aircraft Systems
Carl Micillo, Bethpage, Aircraft Systems
Gerard O. Oftring, Bethpage, Corporate Services
Martin D. Olstad, Bethpage, Space Systems
Dominick Perricone, Melville, Aircraft Systems
Francis R. Sheedy, Bethpage, Corporate Services
Armand A. Small, Hicksville, Aircraft Systems
William J. Stumper, Calverton, Aircraft Systems
Frank R. Swanson, Bethpage, Aircraft Systems
Rudolph C. Thunquist, Woodbury, Data Systems
Arthur L. Wilson, Bethpage, Aircraft Systems
George L. Zeman, Bethpage, Aircraft Systems

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November

Martin Accardi, Bethpage, Aircraft Systems
Roy D. Ambrosait, Bethpage, Aircraft Systems
Joseph J. Anselmo, Pt. Mugu, Aircraft Systems
Kenneth L. Arnold, Hicksville, Aircraft Systems
Irving P. Ballou, Great River, Electronics Systems
Robert J. Baum, Great River, Electronics Systems
Joseph Berka, Los Angeles, Aircraft Systems
Peter L. Brown, Great River, Electronics Systems
William H. Carpenter, Calverton, Aircraft Systems
George M. Castrataro, Bethpage, Aircraft Systems
Eugene T. Cooper, Bethpage, Aircraft Systems
Merle L. Cranmer, Bethpage, Corporate Services
Frank S. DeVito, Bethpage, Aircraft Systems
William H. Dunmyer, Bethpage, Aircraft Systems
Ashley A. Fernandez, Great River, Electronics Systems
Thomas E. Frabizio, Bethpage, Corporate Services
Rudolf Frey, Bethpage, Aircraft Systems
Francis W. Gaughran, Stuart, Aircraft Systems
Roy A. Goddard, Woodbury, Data Systems
Edmund Gorczycki, Melville, Melbourne Systems
Ronald Graziose, Melville, Aircraft Systems
George F. Haggerty, Melville, Aerostructures
Jonas R. Hakimi, Bethpage, Space Systems
Robert Heggie, Stuart, Aircraft Systems
Karl R. Himmelmann, Woodbury, Data Systems
William T. Hynes, Bethpage, Aircraft Systems
Stanley G. Kalemaris Jr., Bethpage, Corporate Services
John F. Karasz, Hicksville, Aircraft Systems
Robert N. Kerschbaum, Bethpage, Aircraft Systems
Erick J. Koch, Melville, Aircraft Systems
Samuel Kreisberger, Melville, Electronics Systems
Richard A. Kuhn, Bethpage, Aircraft Systems
Richard F. Lauria, Stuart, Aircraft Systems

(Continued on page 8)

H. W. Johnston Jr.

S. G. Kalemaris Jr.

J. F. Karasz

R. N. Kerschbaum

E. J. Koch

S. Kreisberger

R. A. Kuhn

R. R. LaScala

G. Laine

R. Lauria

A. Leach

F. G. Leahy

W. Lewis

R. Mahler

T. Maloney

T. Marino

P. H. Mason

J. S. Newman

T. G. Pelham

S. Phillips

R. P. Pokallus

J. E. Reardon

C. J. Reinhartsen

R. A. Riel

F. Robinson

R. E. Romaneck

E. P. Sachs

P. B. Samuels

J. S. Scannello

A. Scaturro

D. A. Schultz

W. R. Schultz Jr.

R. E. Schwarz

D. Sellers

S. M. Serota

G. C. Shires

J. B. Small

A. Spector

B. J. Spinella

J. J. Sredniawski

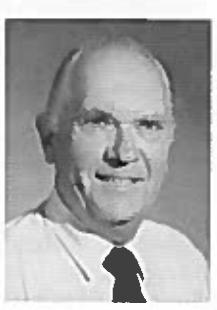
J. R. Start

N. Stratakis

N. R. Sudano

T. Tenreiro

B. H. Thompson


R. W. Tiedemann

I. Tishkevich

H. J. Tiska

M. A. Vecchia

E. R. Vlaun

P. Vormittag

R. M. Walters

W. H. Watlington

G. C. Weber

R. E. White

E. Whitehead

E. A. Wysocki

J. J. Zutlas

Service Milestones

(Continued from page 7)

Arthur Leach, Bethpage, Corporate Services
William Lewis, Bethpage, Aircraft Systems
Rudolph Mahler, Melville, Aircraft Systems
Chester W. Maibach, Bethpage, Aircraft Systems
Thomas Marino, Great River, Electronics Systems
Paul H. Mason, Bethpage, Aircraft Systems
Joseph S. Newman, Bethpage, Aircraft Systems
Frank B. Olson, Cairo, Aircraft Systems
Thomas G. Pelham, Stuart, Aircraft Systems
Fred Robinson, Bethpage, Corporate Services
Richard E. Romaneck, Calverton, Aircraft Systems
Paul B. Samuels Jr., Great River, Electronics Systems
John S. Scannello, Bethpage, Aircraft Systems
Donald A. Schultz, Melbourne, Melbourne Systems
Daniel B. Sellers, Ridgecrest, Technical Services
Stanley M. Serota, Bethpage, Data Systems
Gordon C. Shires, Bohemia, Electronics Systems
Benjamin J. Spinella, Bethpage, Aircraft Systems
Joseph J. Sredniawski, Bethpage, Space Systems
John R. Start, Calverton, Aircraft Systems
Nicholas R. Sudano, Great River, Electronics Systems
Tony Tenreiro, Melbourne, Melbourne Systems
Bertrand H. Thompson III, Bethpage, Aircraft Systems
Robert W. Tiedemann, Calverton, Aircraft Systems
Anthony G. Vavricka Jr., Bethpage, Data Systems
Michael A. Vecchia, Bethpage, Aircraft Systems
Edward R. Vlaun, Bethpage, Corporate Services
Willie H. Watlington, Bethpage, Aircraft Systems
George C. Weber, Woodbury, Data Systems
Clark J. Welch, Hicksville, Aircraft Systems
Edward Whitehead, Bethpage, Aircraft Systems
Edward A. Wysocki, Bethpage, Aircraft Systems
John J. Zutlas, Bethpage, Aircraft Systems

December

Jack L. Abramowitz, Melville, Melbourne Systems
Byron R. Abseck, Melville, Aircraft Systems
Thomas G. Acheson, Bethpage, Corporate Services
Joseph Altieri, Pt. Mugu, Aircraft Systems
Michael L. Bradnick, Calverton, Aircraft Systems
Archie E. Brooks, Los Angeles, Corporate Services
Frank A. Byrd, Hicksville, Aircraft Systems
John J. Caputo, Pt. Mugu, Aircraft Systems
Harold E. Case, Calverton, Aircraft Systems
Victor R. Ciminera, Bethpage, Aircraft Systems
Paul T. Colon, Melville, Aircraft Systems
Robert J. Corris, Bethpage, Aircraft Systems
John T. Diglio, Bethpage, Space Systems
Walter G. Egan, Bethpage, Space Systems
Charles B. Eich, Bethpage, Aircraft Systems
Lawrence Elmen, Bethpage, Aircraft Systems
Donald S. Entwistle, Great River, Electronics Systems
Charles S. Fleming Jr., Bethpage, Aircraft Systems
William C. Graham, Bethpage, Corporate Services
Arthur J. Granata, Bethpage, Aircraft Systems
Joseph E. Grech, Bethpage, Aircraft Systems
Pasquale Grottola, Great River, Electronics Systems
Harry E. Hagberg, Hicksville, Aircraft Systems
Harold J. Hanley, Bethpage, Corporate Services
William F. Hickey, Calverton, Aircraft Systems
Gerald N. Hickox, Sherman, Allied
Kenneth R. Johnson, Bethpage, Aircraft Systems
Herbert W. Johnston Jr., Melville, Aircraft Systems
Russ R. LaScala, Bethpage, Aircraft Systems
Gerald Laine, Melville, Aircraft Systems
Frank G. Leahy, Melville, Aircraft Systems
Thomas A. Maloney, Pt. Mugu, Aircraft Systems
Peter R. McCombs, Melville, Aircraft Systems
Luciano J. Moratti, Bethpage, Space Systems
Cecil Morrison Jr., Sherman, Allied
Samuel Phillips, Bethpage, Aircraft Systems
Richard P. Pokallus, Calverton, Aircraft Systems
John E. Reardon, Bethpage, Corporate Services
Robert W. Reed, Melville, Aircraft Systems
Charles J. Reinhartsen, Houston, Aircraft Systems
Robert J. Reitmann, Bethpage, Aircraft Systems
Raymond A. Riel, Melville, Aircraft Systems
Douglas D. Ross, Bethpage, Aircraft Systems
Edward P. Sachs, Bethpage, Technical Services
Anthony Scaturro, Bethpage, Aircraft Systems
Walter R. Schultz Jr., Bethpage, Aircraft Systems
Robert E. Schwarz, Melville, Aircraft Systems
John B. Small, Bethpage, Aircraft Systems
Abraham Spector, Bethpage, Aircraft Systems
Nicholas Stratakis, Melville, Aircraft Systems
Irvin Tishkevich, Melville, Aircraft Systems
Henry J. Tiska, Melville, Aircraft Systems
Pericles C. Tsombanis, Great River, Electronics Systems
Paul Vormittag, Pt. Mugu, Aircraft Systems
Robert M. Walters, Melville, Aircraft Systems
Robert E. White, Bethpage, Aircraft Systems

25-Year Luncheon

Grummanites who marked 25 years of company service in 1988 are invited to the 25-luncheon on Tuesday, December 6, at the Crest Hollow Country Club in Jericho, N.Y.

The Latest Gobble On Turkeys

Would you like a kosher turkey for your family instead of the non-kosher Grumman turkey? You can have one. Don't pick up a Grumman turkey at the usual distribution time. Instead, buy a kosher turkey at the store of your choice.

If you live on Long Island, bring your 1988 Grumman turkey ticket and the receipt for your kosher turkey to any Employee Services office in Bethpage, Calverton, Great River or Melville before January 31, 1989. Employee Services will contact you when your reimbursement check for up to $16 is ready for pick-up.

The reimbursement will be handled locally for Grummanites at other sites across the country. Contact your administrator for details.

Donate A Turkey

If you'd like to donate your holiday turkey to a worthy organization or needy family, just send your turkey ticket to Sharon Grosser, A33-GHQ.

Need Help With Your Turkey?

The Corporate Equal Opportunity Department will help disabled or handicapped Grummanites pick up their turkeys on December 16 from 8 a.m. to 2 p.m. at Food Services in Bldg. 2.

Supervisors should send a list of names and the turkey tickets to Dick Lindstrom, A39-02. This list must reach Lindstrom before December 16. A copy of the list must also be mailed to Corporate Equal Opportunity, Anna Bonome, D03-GHQ.

For additional information, contact Lillian Dubois, 346-8075; or Floyd Cisco, 575-1856.

Turkeys will be distributed after work on Thursday, December 22. All Grumman plants are open on Friday, December 23.

Readership Survey

We don't want to do all the talking. We'd like to know what you think about the things you see in these pages. Your comments, suggestions and complaints are welcomed. Please take a few minutes and give us your opinions.

Article	Great	Good	Poor	Didn't Read
Tomcat-21 (P. 1)	☐	☐	☐	☐
Super-7 Aircraft (P. 2)	☐	☐	☐	☐
Space Systems Lab (P. 3)	☐	☐	☐	☐
Grumman Quality (P. 5)	☐	☐	☐	☐

Suggestions For Future Articles:.....

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Comments About This Issue:.....

.....

Name.....

(Required If You Wish A Reply) **Ext**.....

☐ Retiree **Division**.....

Mail to: Grumman World, A22-GHQ
IIII Stewart Ave., Bethpage, N.Y. II714